What is claimed is:

1. A method of setting a sending transmit rate for transmitting an outgoing data frame from a network node along a network which includes telephone wiring as a network medium, the method comprising:

5   receiving incoming frames from the other nodes;

         extracting, from each of at least some of the incoming frames, both a source node address corresponding to a source node of the frame, and between the network node and the source node;

         storing, in a storage device at the network node, a look-up table with multiple

10 entries, each of the entries including a desirable transmission rate and a corresponding node address, wherein the storing includes storing the source node addresses and the desirable transmission rates extracted from each of the at least some of the incoming frames; and

         determining the sending transmit rate for an outgoing frame sent to a

15 destination node having a outgoing frame destination address, the determining the sending transmit rate for the outgoing frame including:

                 comparing the outgoing frame destination address to the node addresses stored in the storage device to determine whether a corresponding entry exists in the storage device which corresponds to the outgoing frame

20   destination node; and

                 if the corresponding entry exists, setting the sending transmit rate equal to the desirable transmission rate of the entry.

2. The method of claim 1, wherein the determining includes, if the corresponding entry in the storage device does not exist, setting the sending

25 transmit rate equal to a default rate.

3. The method of claim 1, further comprising communicating the sending transmit rate to one or more physical layer devices of the network node.

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4. The method of claim 1, wherein the extracting includes determining whether the incoming frame is a specialized capability announcement frame, and extracting desirable transmission rate information from the capability announcement frames.

5   5. The method of claim 1, wherein the storing includes examining the entries in the storage device to determine if a corresponding entry is present in the storage device, which corresponds to the source node address of a respective of the incoming frames from which the information related to desirable transmission rates was extracted.

10   6. The method of claim 5, wherein the storing includes, if the corresponding entry is present, updating the corresponding entry.

7. The method of claim 6, wherein the storing includes, if the corresponding entry is not present, adding a new entry or replacing an existing entry.

8. The method of claim 1, wherein the extracting includes determining

15   whether the incoming frame is a capability and status announcement (CSA) frame, or is a rate request control frame (RRCF) with a RRCF destination address corresponding to the network node, and extracting desirable transmission rate information from the CSA frames and the RRCFs with a RRCF destination address corresponding to the network node.

20   9. The method of claim 8, further comprising communicating the sending transmit rate to one or more physical layer devices of the network node.

10. The method of claim 9, wherein the determining includes, if the corresponding entry in the storage device does not exist, setting the sending transmit rate equal to a default rate.

11. The method of claim 10, wherein the storing includes examining the entries in the storage device to determine if a corresponding entry is present in the storage device, which corresponds to the source node address of a respective of the

5   incoming frames from which the information related to desirable transmission rates was extracted.

12. The method of claim 11, wherein the storing includes, if the corresponding entry is present, updating the corresponding entry.

13. The method of claim 12, wherein the storing includes, if the

10   corresponding entry is not present, adding a new entry or replacing an existing entry.